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EXAMINER	
STOUFFER, KELLY M	

ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
05/12/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Response to Arguments

Applicant's arguments filed 15 April 2008 have been fully considered but they are not persuasive. The applicant argues that Dillon does not teach more than one monolayer of aluminum oxide formed as required by claim 1 and that the process of Dillon is self limiting. However, Dillon et al. discloses that the thickness of an aluminum oxide layer after each cycle depends upon the amount of amorphous aluminum oxide present and the reaction mechanism (see pages 239-241 et seq.) Therefore, the variable of aluminum oxide layer thickness is modified by routine experimentation and is not inventive. The examiner does agree that ML in Dillon's case does in fact mean monolayer and Dillon does not teach this feature explicitly, however Dillon does render it a result effective variable. Though the applicant argues that the process of Dillon is self-limiting, Dillon discloses the same procedure as the applicant, so if it was truly self-limiting, the "more than one monolayer" limitation in claim 1 would be improper. As the claim is currently written, there are no distinguishing features over Dillon in view of Penneck that would cause more than one monolayer to be formed, so therefore one of ordinary skill in the art would realize that according to the claim, more than one monolayer may be possible with routine experimentation. Penneck further supports the utility of this with the same precursor, trimethyl aluminum, in column 14 lines 9-35. In addition, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to create more than one monolayer per cycle, since it has

been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The applicant argues that there is no suggestion in Penneck that the use of atomic oxygen can be carried out cyclically. The rejection is made over Dillon in view of Penneck. Dillon teaches cyclic deposition with aluminum and an oxygen source as discussed below and in the previous office actions; Penneck only provides an alternate oxygen source. Further, the applicant argues that there is no indication that the use of atomic oxygen in Penneck would be useful in Dillon, and that Penneck coats cables while Dillon creates films for high dielectric insulators. However, Penneck teaches that by using oxygen plasma, or atomic oxygen, to form a coating of the aluminum oxide (column 11 lines 1-18) one my form a layer free of contaminants that would normally occur during wet deposition processes (columns 7 and 8 lines 59-21). Certainly one of ordinary skill in the art would recognize the utility in Dillon of minimizing surface contamination in a dielectric insulator, especially since Dillon takes sensitive infrared spectroscopy measurements (see Figures) in which contaminants would shift vibrations and cause less accurate spectra. Further, though the art gives sufficient reason to combine the features of these two references, *KSR International Co. V. Teleflex Inc.,* 550 US--, 82 USPQ2d 1385(2007) precludes this requirement for making a *prima facie* case of obviousness. Substituting Penneck's atomic oxygen with Dillon's oxygen source to oxidize TMA would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Therefore, for at least these reasons, the rejections of the previous office action are maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KELLY STOUFFER whose telephone number is (571)272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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kms

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792